

MINUTES OF WG 8 Bad Aibling MEETING, June 1998**1- Attendees :**

A Bezos (GOSET), L Lauro (UNINDO), Ph. Dumortier (Groupe SCNEIDER), JJ Michel (CETIM), AF Cutting-Decelle (université de Savoie/ESIGEC), H Horikoshi (JSTEP, Japan), S Lord (UK), FM Glantschnig, M Westekemper (WZL, Germany), T Kjelberg (KTH, S), M Johansson (KTH, S), WB Gruttke (team SCRA, Northrop Grumman) Greg Paul, M Johansson, Martin Philipp (TU Darmstadt), J Crusey (NIST), S Singh (Concurrent Tech Corp).

2- Adoption the agenda:

The agenda was adopted with the following modification: the joint meeting with WG12 is now scheduled for Thursday June 11 at 10: 30 a.m.

3- Adoption of the minutes of Orlando meeting

The minutes of WG8 Orlando meeting were adopted without any modification.

4- General issues

- It is recommended to people who are interested in WG8 work to inform their national standardization body in order to be registered as WG8 expert.
- WG8 convener informs the attendees he has been invited to provide a presentation to the next OMG MnfdTF (Helsinki July 28-30 1998) and to the NIST (February 1999).
- It was noted the participation of WG8 experts, including the convenor, to the WG10 plenary meeting of Saturday the 6th of June and to the QC tutorial of Sunday the 7th of June.

5- Ballot results**First review of CD 15531-1 ballot results (WG8 N 180, SC4 N677)**

- 10 agree
- 2 disagree (UK and US) : comments
- 1 abstention

First review of CD 15531-21 ballot results (WG8 N188, SC4 N692)

- 7 agree
- 3 disagree : comments
- 4 abstentions

First review of CD 15531-41 ballot results (WG8 N189, SC4 N693)

- 7 agree (1 with comments)
- 3 disagree : comments
- 4 abstentions

Proposals :

- in order to have a document ready for DIS (15531-1) by Beijing meeting , it is decided to first solve comment about Part 1, then comment about Parts 21 and 41 during the next months
- Preparation of a tutorial on MANDATE (San Francisco meeting)
- Improve participation to the WG 8

6- First review of CD15531-1 ballot comments :

The US and UK comments have been reviewed. Most of the editorial comments have been accepted and solved. Most of the technical comments have been also accepted and the background of their resolution determined. Nevertheless a few technical comment need some further information from their author and/or some external decision (e.g. US 1.2 comment need to be solved that the title of parts 21, 31 and 41 will be modified).

The modification will be made by J.J. Michel and AF Cutting-Decelle during July and the change of the name of the parts 21,31,41 requested from SC4 secretariat by Jean-Jacques Michel in order to be ready by Beijing meeting.

The WG8 document N182 is a modified version of ISO 15531-1 (integration of some comments)

7- Work on Part ISO 15531-31 :

- this part needs to be put in conformance with the SC4 supplementary directives (JJM¹): joint meeting with the QC on Thursday on this subject
- S Lord point out the possible reference to the SC5 standards . JJM will check that with SC5 standards. That should also be done with the CEN ENV 12204.
- work to be done in July : make definitions (in Parts 1 and 31) consistent, also with the other standards (STEP, P-LIB) : JJM + AFCD²
 - * process
 - * product
 - * model
 - *
- discussion about the way of mentioning definitions of words already defined in other standards (following the QC training held on Sunday morning). S Lord point out that this issue is a question of style, also a problem of self-consistency of the documents (but also a problem of thickness), we have the freedom to choose.
- section 8 : to be put in annex
- section 9 : to be suppressed : see minutes of the Orlando meeting
- bibliography : after the annexes
- F Glantschnig : short presentation of the work done within the WG 7 and discussion on the relations between SC1 / WG7 and MANDATE, main items:
 - no process control in MANDATE
 - MANDATE address job scheduling, job planning, flow management
 - for MANDATE : data are dealt in terms of capacity, capability, status, ...
 - parts 4x : flow control model parts are at different levels :
 - MANDATE : data for flow modeling
 - WG 7: kind of implementation of MANDATE

¹ JJM = Jean-Jacques MICHEL

² AFCD = Anne-Françoise Cutting-Decelle

- standards dealing with process modeling, enterprise modeling are upper level standards:
- standards dealing with data exchanged for the control itself are lower level standards relatively to MANDATE

MANDATE : *deals with the data used to manage the flow control (the whole manufacturing process through the enterprise), after that, the process model will use the data : coming from STEP, P-LIB, MANDATE.*

MANDATE needs some data related to machine tools, and provides the models of the data needed for the management the flow control including the management (not the control) of those resources

8- Work on Part ISO 15531-32 :

- presentation made by M Westekemper : part 32
- Harmonization with part 41 to be checked
 - capability : indication of what a resource can do, qualitative approach
 - capacity : more quantitative
 - resource status
 -
- Frederic Glantschnig will send the full document they are working on within the WG7 full documentation (10 Mo) by the end of June.
- discussion on resource hierarchy: One level, four level. The conclusion is to try leave the number of level open.
- Discussion on the nature of the resources addressed by MANDATE: what a resource is ? not only humans, machines, machines tools, but also it is also stated for clarification on MANDATE area of interest that in the case of a program for a NC machine, MANDATE need to know that the program exists, is available , is capable of running, is canceled, but MANDATE does not need to know how it works. MANDATE just needs to know the type of data necessary for the program.

Proposal: open the resource_group to several levels and see how the program for running a machine tool fits in this model,

- MANDATE focuses on the data used to manage the process
 - + then, process data and process plan
 - + MANDATE does not provide any data model for product it just uses data from STEP, P-LIB
 - + problem to be solved : case of a product becoming a resource

To be done:

- examples of RIM usage for cutting tool, NC machine tools, human, software, set of data
→ in informative annexes
- title of the part : (see Orlando meeting minutes) -- we keep it as it is.
- change the cover sheet
- name of the owner/editor of the project (choice between two solutions):

owner : J Deuse, editor : MW³

owner : MW, editor : JJM and references to J Deuse's papers in the bibliography

It seems that the last solution should be the best

- send the document to J Bradley for checking for consistency in English
- missing : foreword, introduction : → JJM and AFCD
- checking for consistency against SC4 supplementary directives : → JJM
- scope in 2 parts : → JJM : will make a proposal
 - * scope of ISO 15531-3x : from part 31
 - * scope of this part
- normative references : have a look at the text, titles are missing : to be checked → JJM
- definitions : check the other definitions → JJM : put the definitions already discussed about
- section 3.2 : use of schemas from other parts : → to be seen with QC
- section 4 : to be written in accordance with the (new) Supplementary Directives
 - urgent to be done by MW : little introduction, and little more explanation
- To be checked (if needed with QC⁴)
 - * classification in agreement with the model : explain the classification, map the classification with the modules of the model
 - * entities classified in a logical order
 - * develop the 4.1 : explain the relations of the entities of the blocks
 - * not alphabetical order necessary
 - * lack of wording
 - * add one level, with the name of the “modules”, and mention the entities within the sub-level they refer to
- explanation about the hierarchy of resources, and possibility of several groups (if possible)

³ MW = Markus Westekemper

⁴ QC = SC4 Quality Committee

MW and then modify the schema accordingly

- Proposal: JJM try his best to put it in accordance with Supplementary Directives will send MW a copy to make additions by the END OF JUNE
 - MW : has to see with J Deuse about the need of a relation between : resource_tabular_layout_of_article characteristic and resource_characteristic (see Florence minutes)
 - Concept of super_group may answer S Lord's concerns about ressource_hierarchy. That has to be clarified. MW will work on it and propose modifications to take into account S Lord's comments: hierarchy of groups or networks of groups;
 - change the table of contents: JJM
 - foreword and introduction : JJM
 - section 2 : second week of July : JJM + AFCD
 - section 3 : to be checked in accordance with Part 49 and QC → JJM start, and MW to complete the information
 - section 4 :
 - * 4.1 : add text with explanations of the logical order : MW : and add level of clauses
 - * 4.3 : resource_group : clarify and update to take into consideration SL's concerns :
 - MW : 1st week of July
 - clarify the issue List, and Set
 - need of examples within the main entities definition + explanatory notes (MW)
 - JJM : will put them at the format necessary for the SD compliance
 - * resource_qualitative and resource_quantitative : to be checked against STEP Part 41 :
 - if different : explain differences, and change the names
 - if the same : refer to them
 - MW : end of June
 - global check for consistency with EXPRESS : JJM
 - examples to be developed (in informative annexes) about resources :
 - MW : flexible production cell
 - cutting tools
 - JJM+AFCD human resources
 - set of data
 - Software
 - type defined for the entities ressource_classification and ressource_status, by the select command
- :
- * they only apply to cutting tools, not to human beings or sets of data
 - * questions :

- can we have those supplementary attributes that are currently missing
- can the “ SELECT ” command be open ?
- can we have an open list within the “ SELECT ” command ? ?
- if yes : good
- if not : can we add some attributes ?

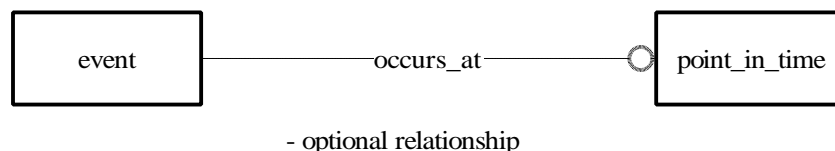
➔ MW has to collect all the possibilities : for human resources, for sets of data
if not, the model is not applicable to other kinds of resources than cutting tools

- see Orlando minutes : problem of approval (Takeuchi comment)
- explain the external references (to STEP parts)

* to be mentioned in the part 31 : as references

9- Work on the “ time model ” : WG8 N101

- JJM : need to make it conform with the SC4 Supplementary Directives
- JJM : cover sheet, foreword, scope, normative references, definitions to be written.
- central part of the document : to be checked
- other concern for the document : request from the WG12 related to SEDS request . Those issues have been examined and solved during the joint meeting with WG12 (see the WG12 meeting minutes)
- one of the characteristics of the time model in MANDATE is that it is defined independently of any event. That should be clarified and specified in the part 42 of MANDATE.



- page 15 of the document the definition of “ interval_of_time ” has to be improved (loop)
- time defined independently of any role
- the text of the document has to be developed

10- Other various concerns

- Some proposal to solve the issue raised on **entity** in the comments on CS15531-1 ballot:
 - Replace **entity** by **enterprise_entity** with the following definition: any concrete or abstract thing in the universe of discourse related to an enterprise
 - New definition of **universe_of_discourse** : the collection of concrete or abstract things that belong to an area of the real world and selected according to its interest for the system to be modeled and for its environment.
- The resource information model shall be able to carry any information needed to perform a the task requested from the resources from a operational point of view
- **In MANDATE the process plan includes all the information needed to perform a given task or set of task (job scheduling, status,...). MANDATE point of view is an operational**

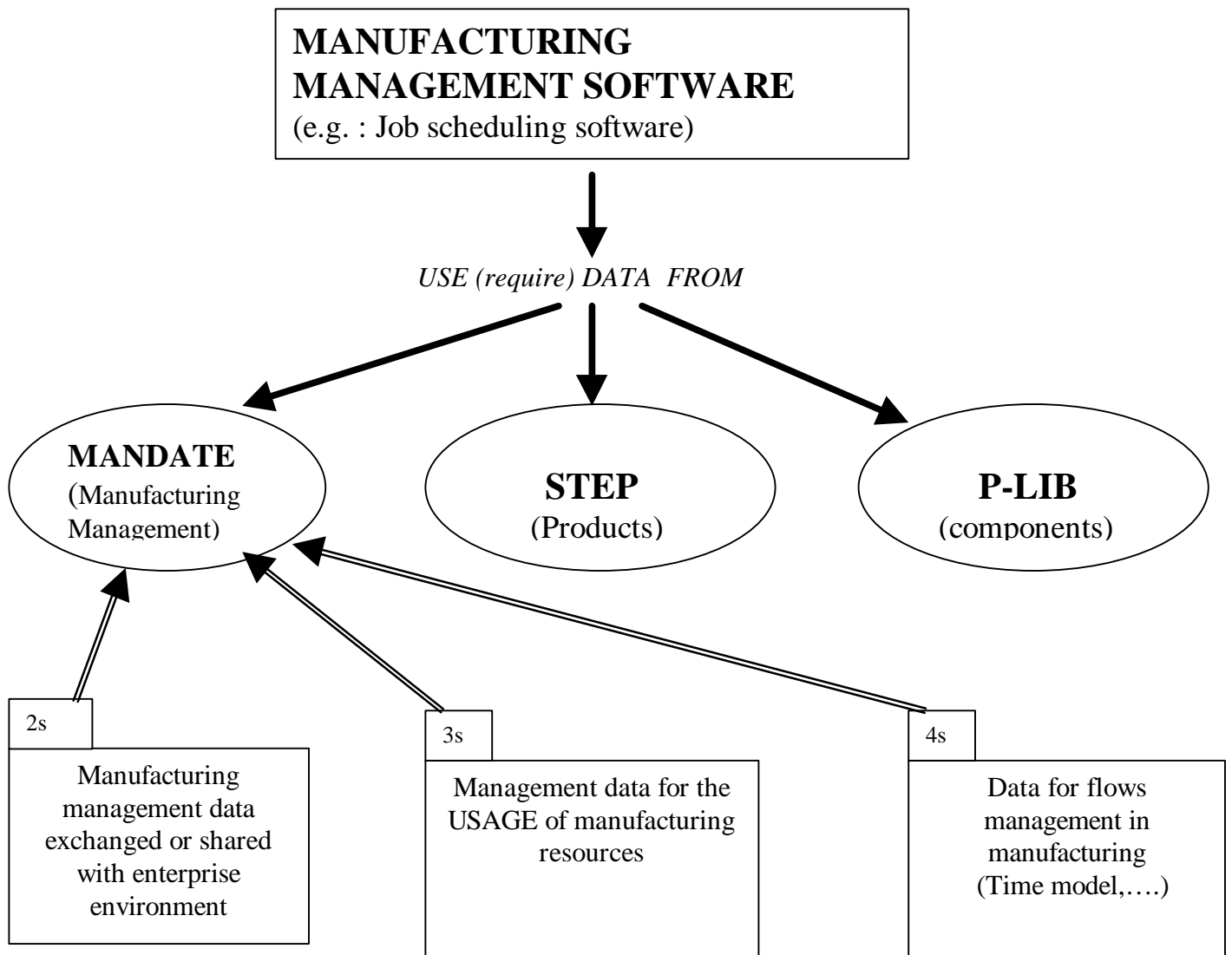
(dynamic) point of view. That explain the difference between ISO 10303-49 and MANDATE definition of process plan (use the term of “process folder” in MANDATE?).

- The MANDATE time model is expected to monitor and manage several flows at the same time, to deal with several expected or current events which are not mandatory and/or directly linked to a given product (like in AP214)
- In type_of_value_of_interval_in_time it is not needed to keep INTEGER, REAL is enough (includes INTEGER)

11- Joint meeting with WG3/T7

- Agenda of the Joint Meeting :
 - Swedish project : status and update
 - Mandate status and issues
 - AP 214 status and version 2 requirements
 - other items : AP 219, TC 184 / SC1 - part 11
- **PWI “Design and configuration of manufacturing system”**
 - presentation by Mathias Johansson
 - try to use the ARM structure of AP 214
 - a lot of common features with AP 214
 - process plan : set of instructions, static description of the sequence of operations (much nearer to ISO 1303-49 than to MANDATE)
 - component structure : components of a machine tool
 - model of the safety area around the machine: AP 214 model fulfills this, not tested yet : will be done
 - in AP 214, nothing about manufacturing systems
 - Place of MANDATE : flow scheduling, management of data in a process designed by other standards, MANDATE addresses data needed to manage those processes, not the description of the processes. MANDATE deals with the data used to manage the resources, to integrate those resources in the manufacturing flows (data dealing with the status of resources : idle, busy, ...)
 - AP 214 satisfies “Design and configuration of manufacturing systems” PWI requirements, but there are additional requirements, placed on the control of the manufacturing process (Those could be fulfilled by MANDATE)

- **MANDATE presentation**



- Status of the parts :

CD 15531-1 : balloted

decision of the SC4 Chair and Secretariat :

after resolution of the comments, next version will be forwarded as DIS

CD 15531-31 : balloted

decision : document will go to a 2nd CD ballot after resolution of the comments

the document after review by QC will be ready for 2nd CD CD 15531-41 : balloted

decision :

WD 15531-32 : ready for CD ballot during summer

- work programme :

- WD 15531-42 : time model, ready for CD ballot early 1999

- CD 15531-1 : comments solved or solutions identified

- * ready to be forwarded as DIS by end of the year
- * info about the major comments :

- + use of “ entity ” → “ enterprise_entity ”
- + clauses 6 and 7 : to be put in annex
- + name “ overview ” to be removed

* to be checked: impact of the comments about the overview on the other parts

- modification scheduled in part 32:

keep open the number of resource levels : instead of generic_, specific_, individual_resource

- Issue raised by Mathias Johansson: *when defining a resource, is it possible to refer to a resource provided in another standard, or in another external description ?*

12- Joint meeting with QC Production team

- Request from QC to review documents QC N 057, 059, 054 and to send them to crusey@cme.nist.gov by 98/06/20
- if we see “ holes ” → send issue to Allison Barnard-Feney, or Jesse Crusey
- general comments about “ SC4 handbook ” should be send Lisa Phillips
- questions from WG8 (mainly about the CD ballot comment resolution):

+ definitions : inclusion of definitions from other parts, or other standards possible or repetition “ for convenience ”. Also possible in our case : note with the definition from the other standard.

+ US issue n° 39 (CD 15531-1 ballot): we have to answer, term is defined in the standard mentioned

+ EDI : defined in the abbreviation

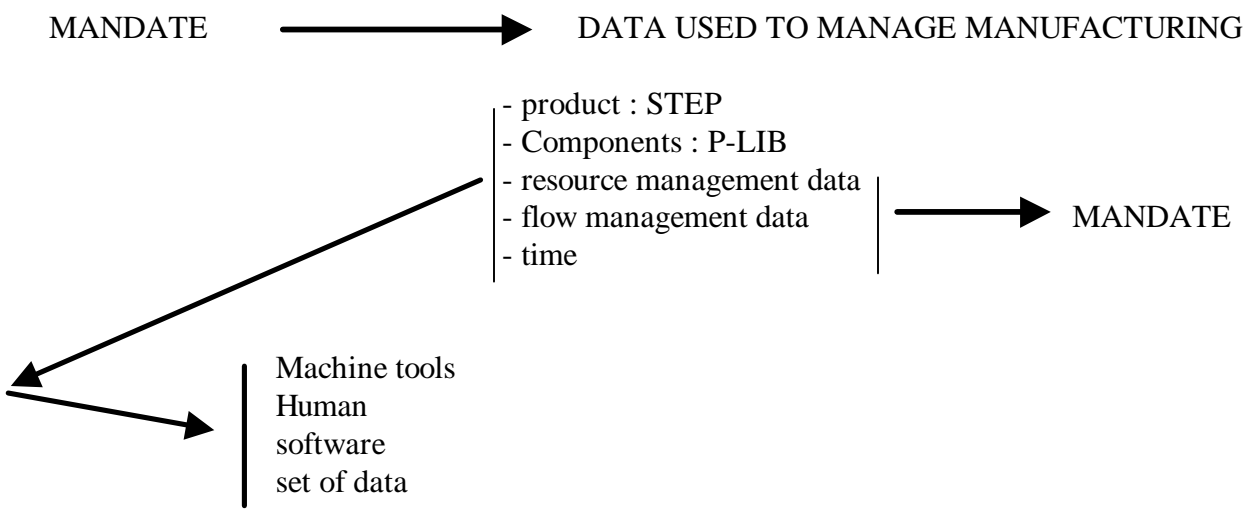
+ use of STEP, within the document : to be avoid, it is better to refer to the standard number

+ such as : to be avoid, use examples

+ alphabetical order for EXPRESS definitions : not mandatory, if there is a logical order
→ groups of entities in the first level sub-clause, but types shall be first.

+ not shadowing allowed then use the concept of planning mode, or use the possibility of representing square boxes, with cross lines inside boxes, lines, and names within the boxes for data planning models : name of the lines, with a circle at the end, nothing else (not a high level of details) : just for overall understanding. each of the box of the planning may be related to a clause level in the text

+ to change the title of the part 21, 31 and 41 of MANDATE (in order to solve the US issue)
a request by mail should be send to SC4 secretariat



Filename: wg8_min
Directory: N:\scratch\parts\minutes
Template: C:\Program Files\Microsoft Office\Office\Normal.dot
Title: AFCD
Subject:
Author: AFCD
Keywords:
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Number of Words: 2,454 (approx.)
Number of Characters: 13,990 (approx.)